of ponies were frightened by the prospect of having to leave the ta-lu, 'the big road', and the distance from the new district head-quarters at Tung-lo-hsien (Map No. 46. c. 3) made it easy for the local headmen or 'Hsiang-yehs' to play their part in the game of obstruction. It needed continuous efforts during three days, coupled with whatever influence the military commandant, threatened with the displeasure of his 'T'i-t'ai', could exert, before the seventeen animals needed were collected. I had agreed to pay double the official rate of hire, and in order to lighten the loads I let Li Ssŭ-yeh and Naik Shamsuddīn return to Kan-chou with every man whom we could spare while we were in the mountains.

Start for mountains.

On July 13th we were at last able to start. Moving along the foot of a loess-covered spur which here marks the northernmost outlier of the Nan-shan, we passed the half-deserted walled town of Yung-k'ou, another small garrison place with a 'Hsieh-t'ai' or colonel in command. Notwith-standing the steadily increasing elevation, about 8,800 feet at Yung-k'ou, and the total absence of running water in any of the branching beds of the river which passes Yung-k'ou, all the land right up to the point where the river's main tributary stream debouches above the village of Chiao-mên-chiang-tzǔ was laid out in fields. Owing to want of labour and probably also of sufficient manure, much of the cultivable land is tilled only in alternate years.

Ascent to O-po pass.

The following day's march carried us from our camp at the outfall of the stream right up to the head of its valley and across the watershed which divides it from the eastern head-waters of the Kan-chou river due south. It was delightful to find myself again in true alpine scenery, ascending a verdant valley (Fig. 280) with meadows by the stream covered with carpets of flowers and all the slopes clothed with luxuriant forest. Above Pien-tung-k'ou, where the road passes through a 'chiusa' guarded by a small post, the valley narrows to a picturesque gorge by which the stream coming from the watershed has cut through a high outer range. From this gorge the route emerges, near the decayed fort of Êrh-tao-kou, on to a wider portion of the valley (Fig. 279) where the two main feeders of the stream meet from the north-west and south-east respectively. Here we encountered the first camps of Tanguts grazing their large herds of yaks and flocks of sheep on the grassy expanse of wide downs. Snow bridges still covered in places the bed of the small stream, above which a gentle ascent led to the easy pass of O-po-ling-tzŭ, about 12,680 feet above sea-level, marking the watershed.

Headwaters of Kan-chou river. From the pass the view lay quite open across the wide plateau that is the gathering-place of the head-waters of the O-po-ho, the eastern main feeder of the Kan-chou river, as seen in Fig. 278. The range bordering it to the south and south-east marked the watershed towards the Ta-t'ung-ho, a tributary of the Huang-ho, and thus towards the Pacific Ocean. The full view of this watershed and the thought that these mountains owed their abundant vegetation solely to the moisture carried from the ocean might well have made me forget the huge distance still separating us from it. But as we stood on the pass, there swept up the valley from the north a strong wind, carrying with it a dust-haze as if to remind me how close we were still to the great deserts of innermost Asia. If it is moisture derived from the ocean that produces the rich vegetation of these mountains, it is the

<sup>2</sup> Judging from the clinometrically determined heights on the range to the NW. and SE. of this gorge (Map No. 46. B, C. 4) as compared with those of the range farther south overlooking the O-po-ho, the eastern main feeder of the Kan-chou river, it appears possible that the true axis of the Richthofen range lies along the former range and not along the latter, though this represents the watershed.

The fact that the two ranges extend more or less parallel from peak 15690 (Map No. 46. B. 4) to the south-easternmost

area reached by Lāl Singh, near the P'ing-hsiang-k'ou pass (No. 46. c. 5), suggests a change here in the morphology of the Richthofen range as compared with the portion stretching along the western head-waters of the Kan-chou river, where it forms a single chain with big spurs jutting out obliquely on the north side. A close survey of the as yet unexplored portion of the range (Map No. 46. A. 3, 4), where it is broken through by the Kan-chou river in a formidable gorge, may perhaps clear up this question.